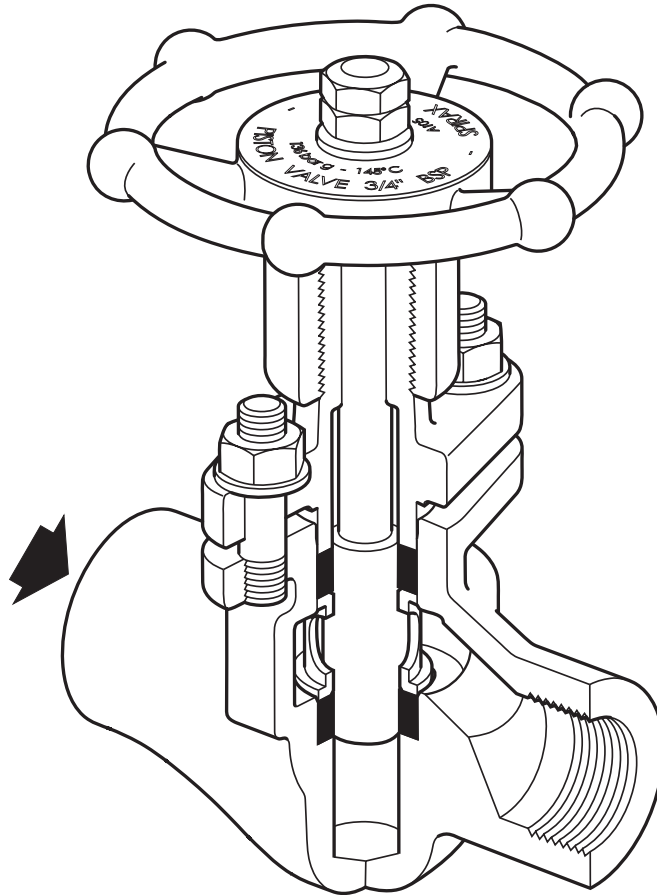




## PV4 and PV6 Piston Valves

### Description

The PV4 and PV6 are piston isolation valves that have been designed for use on steam, condensate and other liquid systems.



### Available types:

Screwed, butt weld and socket weld connections

**PV4**

Carbon steel body/bonnet and stainless steel internals

**PV6**

Stainless steel body/bonnet and stainless steel internals

### Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

### Certification

This product is available with certification to EN 10204 3.1.

**Note:** All certification/inspection requirements must be stated at the time of order placement.

### Sizes and pipe connections

1/2", 3/4", 1", 1 1/4", 1 1/2" and 2"

NPT to ASME B1.20.1

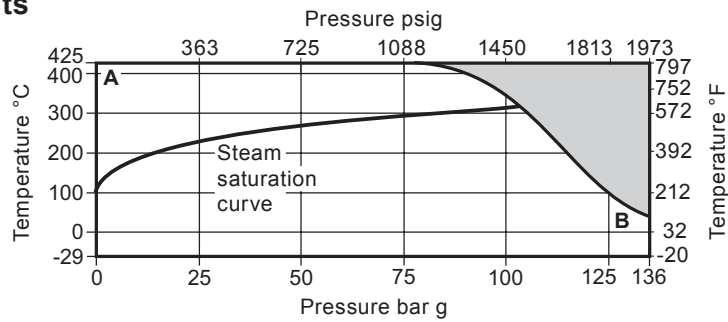
Socket weld ends to ASME B 16.11

Butt welded ends to EN 12627:1999BW - ASME B16.25

Screwed BSP (BS 21 / DIN 2999)

## Pressure / Temperature Limits

### PV4

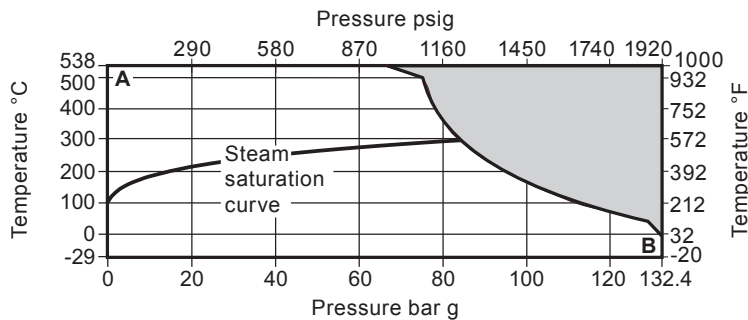


The product **must not** be used in this region.

**A - B** Screwed, socket weld and butt weld

Body design conditions	API Class 800
PMA Maximum allowable pressure	1973 psig @ 100°F (136 bar g @ 38 °C)
TMA Maximum allowable temperature	797°F @ 1102 psig (425 °C @ 76 bar g)
Minimum allowable temperature	-20°F (-29 °C)
PMO Maximum operating pressure for saturated steam service	1465 psig (101 bar g)
TMO Maximum operating temperature	797°F @ 1102 psig (425 °C @ 76 bar g)
Minimum operating temperature	-20°F (-29 °C)
<b>Note:</b> For lower operating temperatures consult Spirax Sarco	
Designed for a maximum cold hydraulic test pressure of	2973 psig (205 bar g)

### PV6



The product **must not** be used in this region.

**A - B** Screwed, socket weld and butt weld

Body design conditions	API Class 800
PMA Maximum allowable pressure	1915 psig @ 32°F (132 bar g @ 0°C)
TMA Maximum allowable temperature	1000°F @ 972 psig (538 °C @ 67 bar g)
Minimum allowable temperature	-20°F (-29°C)
PMO Maximum operating pressure for saturated steam service	1218 psig (84 bar g)
TMO Maximum operating temperature	1000°F @ 972 psig (538 °C @ 67 bar g)
Minimum operating temperature	-20°F (-29°C)
<b>Note:</b> For lower operating temperatures consult Spirax Sarco	
Designed for a maximum cold hydraulic test pressure of	2872 psig (198 bar g)

## C<sub>v</sub> Values

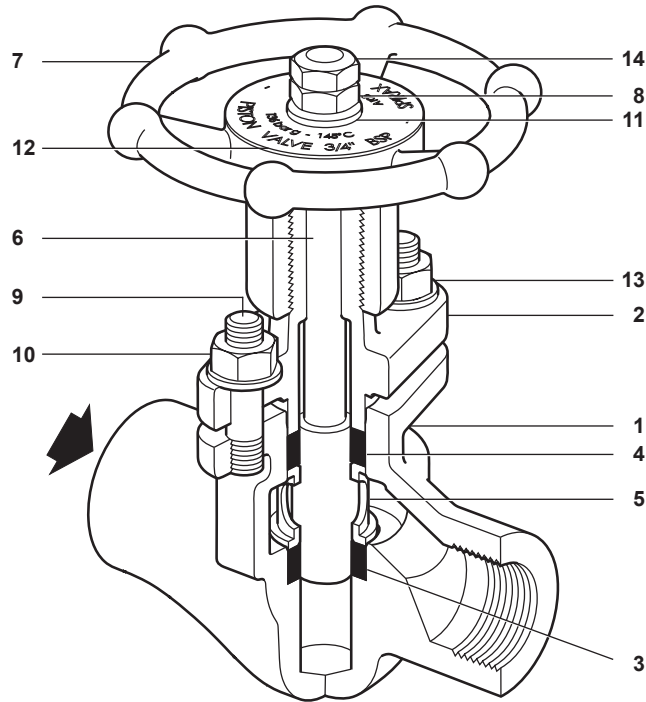
Screwed, Socket weld  
and butt weld

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
C <sub>v</sub> (US)	3.5	5.2	9.8	13.9	23.7	37.0

For conversion:

$$C_V (US) = K_V \times 1.156$$

$$K_V = \frac{1.156}{C_V (US)}$$

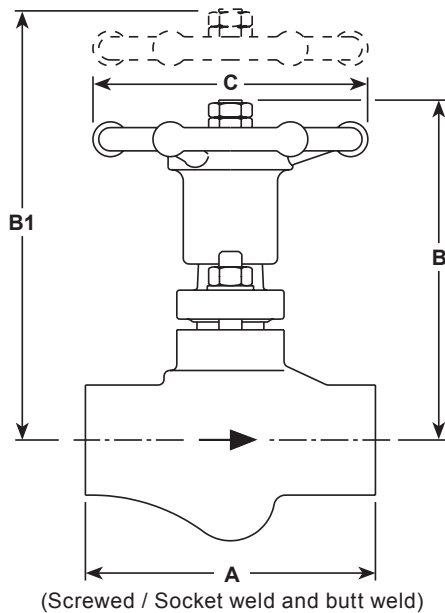


## Materials

No.	Part		Material	
1	Body and Bonnet	PV4	Carbon steel	ASTM A105
2		PV6	Stainless steel	EN 1.4401 / AISI 316
3	Lower sealing rings		Graphite laminate	
			Stainless steel	
4	Upper sealing rings		Graphite laminate	
			Stainless steel	
5	Lantern bush	PV4	Stainless steel	EN 1.4057 / AISI 431
		PV6	Stainless steel	EN 1.4401 / AISI 316
6	Piston	PV4	Stainless steel	EN 1.4401 / AISI 316
		PV6	Stainless steel	EN 1.4404 / AISI 316L
7	Handwheel		Carbon steel	
8	Handwheel nut		Carbon steel	
9	Stud bolt	PV4	Carbon steel	ASTM A193 B7
		PV6	Stainless steel	ASTM A193 GrB8M2
10	Nut	PV4	Carbon steel	ASTM A194 2H
		PV6	Stainless steel	ASTM A193 GrB8M2
11	Washer		Stainless steel	
12	Name-plate		Stainless steel	
13	Belleville washer		Stainless steel	
14	Blind nut		Carbon steel	

**Dimensions / Weights** approximate in inches / pounds and (mm / kg) screwed, socket weld and butt weld

Size	A	B	B1	C	Weight
½"	3.3 (85)	3.6 (92)	4.4 (112)	3.0 (75)	2.4 (1.1)
¾"	3.9 (100)	4.0 (102)	5.6 (142)	3.7 (95)	3.5 (1.6)
1"	4.7 (120)	5.3 (134)	6.9 (174)	4.5 (115)	6.2 (2.8)
1¼"	5.5 (140)	6.3 (160)	7.7 (196)	5.9 (150)	8.8 (4.0)
1½"	6.3 (160)	7.1 (180)	8.7 (220)	5.9 (150)	14.3 (6.5)
2"	7.3 (185)	8.3 (210)	10.4 (265)	7.9 (201)	33.1 (15.0)



**Spare Parts**

Spare parts are available as indicated. No other parts are supplied as spares.

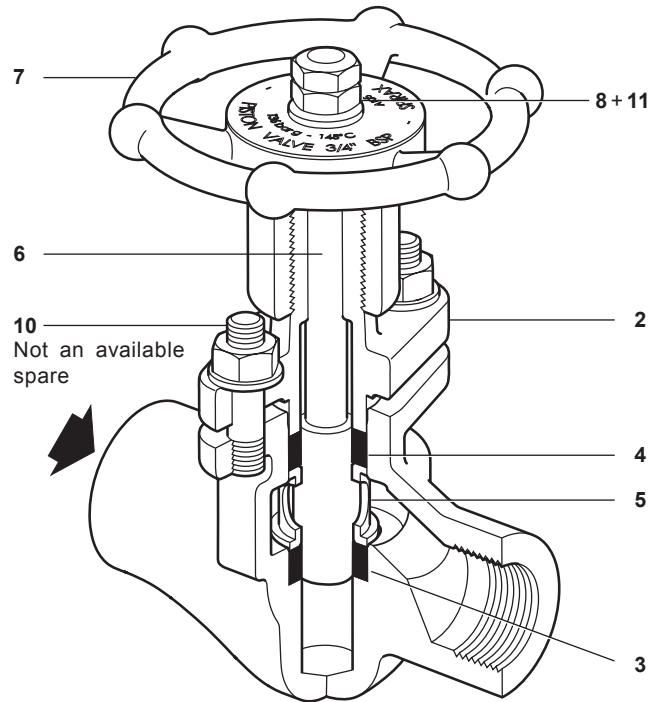
**Available Spares**

Set of sealing rings	3 and 4
Bonnet assembly	2, 3, 4, 5, 6, 7, 8, and 11

**How to Order Spares**

Always order spares by using the description given above and state the size and type of valve.

**Example:** 1 - Bonnet assembly for a Spirax Sarco ½" PV4 piston valve.



**Safety Information, Installation and Maintenance**

For full details see the Installation and Maintenance Instructions (IM-P118-05) supplied with the product.

**Caution:** Valve keys should not be used to operate these valves.

**Installation note:**

Install the valve in the direction of flow given by the arrow on the body. The valve can be installed in any plane but not with the handwheel below the valve body.



**Disposal**

The product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

**How to Order**

**Example:** 1 off Spirax Sarco ½" PV4 piston valve having screwed NPT connections. The valve is to be supplied with EN 10204 3.1 certification. The C<sub>v</sub> is to be 3.5.

**Recommended Tightening Torques**

Item	Size	 or 	ft lb (N m)
10	½"	13 A/F	8.9 (12)
	¾"	13 A/F	6.6 (9)
	1"	13 A/F	6.6 (9)
	1¼"	17 A/F	22.1 (30)
	1½"	22 A/F	25.8 (35)
	2"	26 A/F	51.6 (70)

**Caution:** The torque of the studs is calculated to optimise the use of the product. An excessive torque can damage the valve internals (particularly if the product is open). The studs of valve can be retightened to extend the life of it, but only when it is closed and not more than the recommended torque.